

Ultra Brightness White LED Lamp

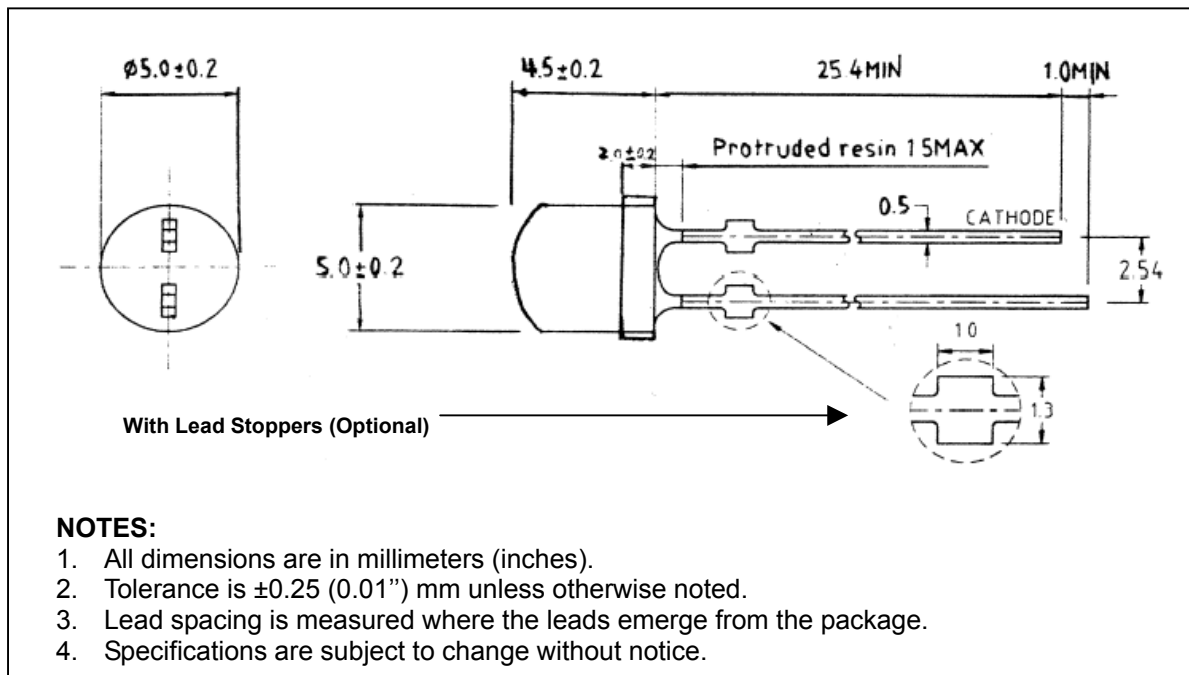


T-1 3/4 (5mm) Through-Hole Package

PL-LBUW5SC5M series

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> Extremely uniform white LED. Super luminosity white LED (GaN die). Wide viewing angle (150 degrees). Milky diffused lens. T-1 3/4 (5mm) low profile package. Class 1 ESD rating 	<ul style="list-style-type: none"> Night-lights. Garden Lights. Backlighting for signs.

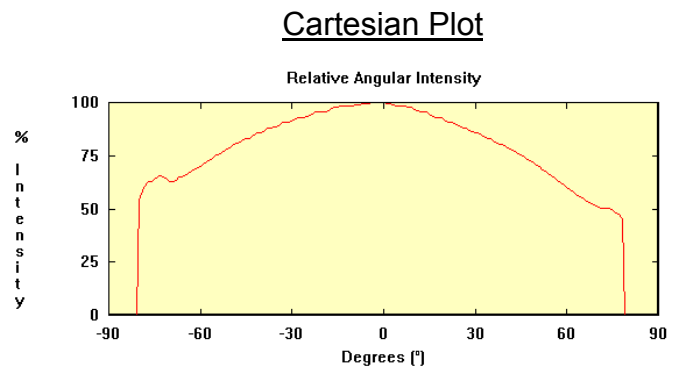
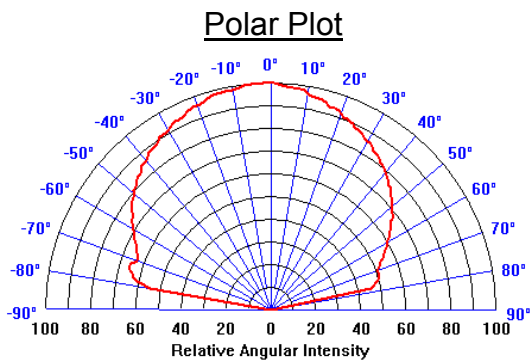
PACKAGE OUTLINE DIMENSIONS:



NOTES:

- All dimensions are in millimeters (inches).
- Tolerance is ± 0.25 (0.01") mm unless otherwise noted.
- Lead spacing is measured where the leads emerge from the package.
- Specifications are subject to change without notice.

BEAM RADIATION PATTERNS



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ABSOLUTE MAXIMUM RATING (at T_A = 25°C)

Parameter	Symbol	Value	Unit
Continuous Forward Current	I _F	30	mA
Peak Forward Current (1/16 Duty Cycle, 0.1msec Pulse width)	I _{Fp}	150	mA
Power Dissipation	P _d	120	mW
Forward Voltage	V _f	3.2 ± 0.2	V
Derating Factor	D _F	0.4	mA / °C
Reverse Voltage	V _R	5.0	V
Operating Temperature	T _{opr}	-25 to +85	°C
Storage Temperature	T _{stg}	-35 to +100	°C
Lead Soldering Temperature (1.6mm (0.063") from body)	260°C for 5 seconds		

ELECTRICAL / OPTICAL CHARACTERISTICS (at T_A = 25°C)

Parameter		Symbol	Min	Typ	Max	Unit	
Forward Voltage		I _F = 20 mA	V _F	3.2	3.6	V	
Reverse Current		V _R = 5 V	I _R		100	μA	
Viewing Angle		2 θ 1/2	145	150	155	deg	
Luminous Intensity	Rank S	I _F = 20 mA	I _v	250	300	350	mcd
	Rank R	I _F = 20 mA	I _v	350	400	500	mcd

LUMINOUS FLUX (at 20 mA DC / T_A = 25°C)

Product Code	Luminous Flux (lm)				
	Rank R			Rank S	
	Min.	Typ.	Max/Min	Typ.	Max.
PL-LBUW5SC5M	1.8	2.0	2.2	2.4	2.6

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COLOR RANK LIMITS (at 20 mA DC / T_A = 25°C)

BIN	Color Rendering Index	Approximate Color Temperature (K)
A	50 - 65	9,500 - 15,000
B	70 - 90	5,500 - 9,500
C	75 - 95	4,500 - 5,500
D	70 - 85	2,800 - 3,200

COLOR RANKS CIE CHROMATICITY COORDINATES

A-Rank (Approximate Color Temperature: 9,500-15,000K)

	Rank A			
X	0.280	0.264	0.283	0.296
Y	0.248	0.267	0.305	0.276

B-Rank (Approximate Color Temperature: 5,500-9,500K)

	Rank B1			
X	0.287	0.283	0.330	0.330
Y	0.295	0.305	0.360	0.339

	Rank B2			
X	0.296	0.287	0.330	0.330
Y	0.276	0.295	0.339	0.318

C-Rank (Approximate Color Temperature: 4,500-5,500K)

	Rank C			
X	0.330	0.330	0.361	0.356
Y	0.318	0.360	0.385	0.351

D-Rank (Approximate Color Temperature: 2,800-3,200K)

	Rank D			
X	0.440	0.440	0.500	0.500
Y	0.400	0.500	0.500	0.400

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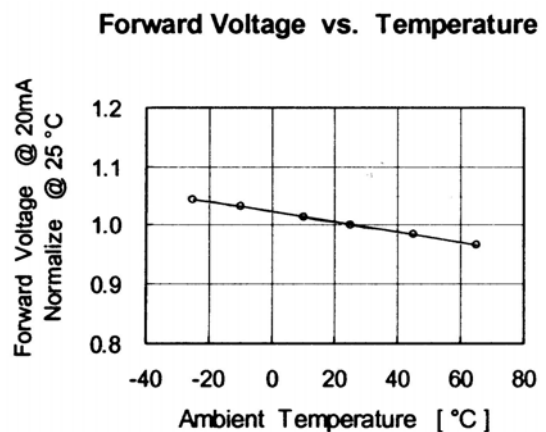
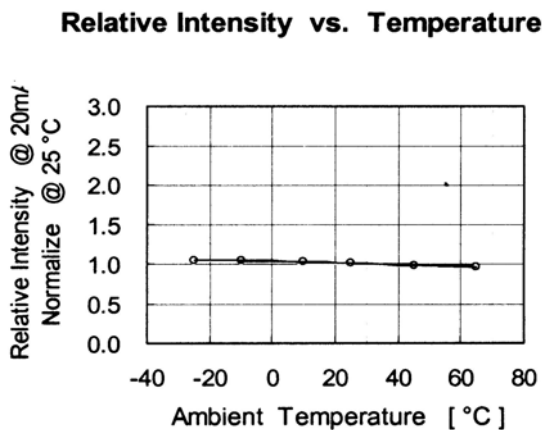
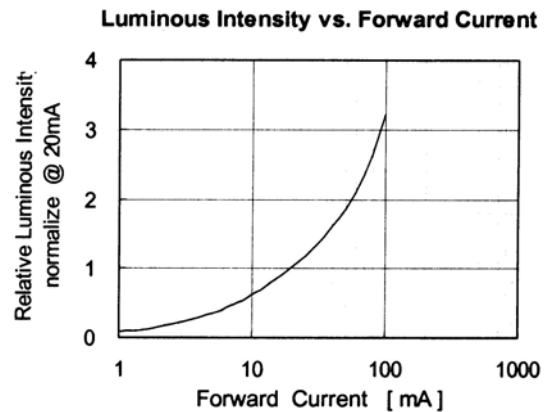
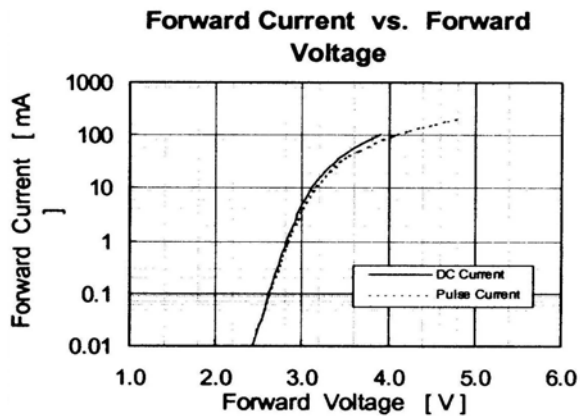
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TYPICAL ELECTRICAL CHARACTERISTICS CURVES

(at 20 mA DC / $T_A = 25^\circ\text{C}$)



GENERAL NOTES:

1. Luminous Intensity (Iv) is measured with a light sensor and filter combination (goniospectroradiometer) and is the Luminous Flux per unit solid angle (steradian) emitted by the LED lamp in the direction of the mechanical axis of the lamp and then weighed by the eye response curve (1931 CIE 2° Observer Chromaticity Diagram).
2. Luminous Intensity measurement uncertainty is +/- 15% due to test procedures and equipment variations.
3. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity. Tolerance +/- 3°.
4. The Chromaticity Coordinates (x,y), are derived from the 1931 CIE 2° Observer Chromaticity Diagram.
5. Chromaticity Coordinate measurement uncertainty is +/- 0.05 due to variations.
6. Color Temperature derived from black body curve on 1964 u-v CIE chromaticity diagram.
7. **Caution for ESD:** Static Electricity and surges can damage the LED. It is recommended using a wristband or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
8. Do not apply excess mechanical stress to the leads, especially when heated or while soldering.

